

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 December 2003 (11.12.2003)

PCT

(10) International Publication Number
WO 03/103122 A1

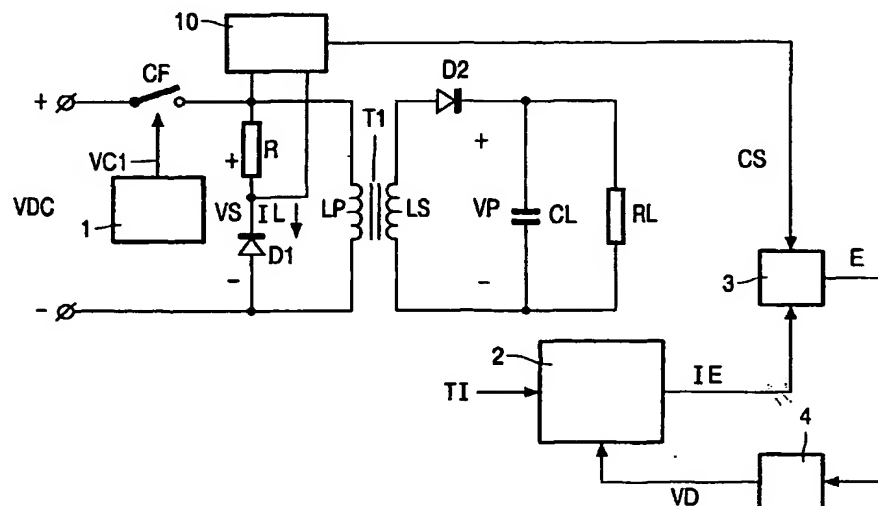
- (51) International Patent Classification⁷: **H02M 3/335**, 3/158, 1/00
- (21) International Application Number: PCT/IB03/02250
- (22) International Filing Date: 21 May 2003 (21.05.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
02077196.0 4 June 2002 (04.06.2002) EP
- (71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **HALBERSTADT, Johan, C.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **VAN DER HORN, Gerrit** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (74) Agent: **STEENBEEK, Leonardus, J.**; Internationaal Octrooibureau B.V., Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: POWER CONVERTER



(57) Abstract: A power converter comprises an inductor (LP) and a controllable switch (CF) coupled to the inductor. A switch controller (1) supplies a periodic switching signal (VC1) which has a repetition time and a duty cycle to the controllable switch (CF) to generate a periodical inductor current (IL) through the inductor. A generator (2) generates an emulated signal (IE) based on timing information (TI) which represents the repetition time and the duty cycle to emulate a current signal being representative of the inductor current. A comparator (3) compares the emulated signal (IE) with the current signal (CS) to obtain an error signal (E). A generator controller (4) receives the error signal (E) to supply a control signal (VD) to the generator (2) to adapt a property of the emulated signal (IE) to become substantially equal to a property of the current signal (CS).